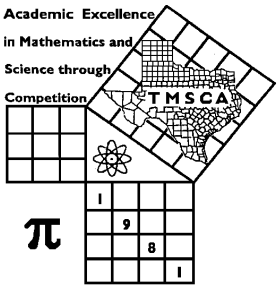
1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	**Final Score**

PLACE LABEL BELOW

Name:_____ School:_____

SS/ID Number:_____ City:_____

Grade: 5 6 7 8 Classification: 1A 2A 3A 4A 5A 6A



TMSCA MIDDLE SCHOOL`

NUMBER SENSE

TEST #5©

NOVEMBER 19, 2016

GENERAL DIRECTIONS

1. Write only the requested information on this coversheet. Do not make any additional marks on this cover sheet.
2. You will be given 10 minutes to take this test.
3. There are 80 problems on the test.
4. Write in ink only! It would be advantageous to use non-black ink.
5. Solve as many problems as you can in the order that they appear.
6. Problems that are skipped are considered wrong.
7. Problems that appear after the last attempted problem do not count either for or against you.
8. ALL PROBLEMS ARE TO BE SOLVED MENTALLY! [No scratch work!]
9. Only the answer may be written in the answer blank.
10. Starred [*] problems require approximate INTEGRAL answers that are within 5% of the exact answers. All other problems require exact answers.
11. All problems answered correctly are worth FIVE points. FOUR points will be deducted for all problems answered incorrectly or skipped before the last problem attempted.

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2016-2017 TMSCA Middle School Number Sense Test #5

(1) $425 \div 5 =$ _____

(2) $63 - 57 + 43 - 37 + 23 - 17 =$ _____

(3) $0.7 \times 22 =$ _____

(4) $43 \times 12 =$ _____

(5) $\frac{13}{18} - \frac{7}{18} =$ _____ **(fraction)**

(6) $6214 \div 11$ **has a remainder of** _____

(7) $16^2 =$ _____

(8) $(14 + 70) \div 6 - 3^2 =$ _____

(9) $\frac{5}{6} \times 72 =$ _____

***(10)** $473 - 1826 + 4279 =$ _____

(11) $35 \times 14 =$ _____

(12) 6 feet + 7 inches = _____ **inches**

(13) $32 \times 73 + 32 \times 7 =$ _____

(14) The mean of 16, 17, and 48 is _____

(15) $26^2 =$ _____

(16) $\frac{1}{2} + \frac{9}{10} =$ _____ **(mixed number)**

(17) $75^2 =$ _____

(18) $280 \div 3.5 =$ _____

(19) MMV + XI = _____ **(Arabic number)**

***(20)** $332 \times 839 =$ _____

(21) $9408 = 96 \times$ _____

(22) $104 \times 106 =$ _____

(23) $324 \times 0.333\ldots =$ _____

(24) The GCD of 56 and 35 is _____

(25) The sum of the
smallest 13 positive odd integers is _____

(26) $2017 \times 6 =$ _____

(27) The additive inverse of 7^2 is _____

(28) 15% of 22 is _____ **(decimal)**

(29) The sum of the
four smallest composite numbers is _____

***(30)** 63.1% of 9810 is _____

(31) How much does a $40 item
cost on sale for 40% off? $_____

(32) 50 has how many positive integral divisors? _____

(33) $2.43\ cm^2 =$ _____ mm^2

(34) $\frac{11}{8} + \frac{8}{11} =$ _____ **(mixed number)**

(35) If $x^2 = 36$ and $x < 0$, then $x^3 =$ _____

(36) The number of subsets in {g,o,l,f,i,n} is _____

(37) If $121^2 = 14641$, then $115 \times 127 =$ _____

(38) The angle that forms a linear pair with a
123 degree angle has a measure of _____ **degrees**

(39) $22^2 + 44^2 =$ _____

***(40)** $\sqrt{317} \times \sqrt{245} =$ _____

(41) If $\frac{4}{x} = \frac{7}{3}$, then x = _____

(42) If $3 + 6 + 9 + \ldots + 30 = 10k$, then k = _____

(43) Find the area of a trapezoid with height 16 and bases of 10 and 18._____

(44) 24 inches × 72 inches =_____ft^2

(45) $\sqrt{1681}$ =_____

(46) 7^3 =_____

(47) The set {t,h,e,o,r,y} has how many subsets with exactly one element?____

(48) The interior angle of a regular octagon measures_____°

(49) If $f(x) = \frac{18}{x}$, then $f\left(\frac{1}{22}\right)$ =_____

***(50)** 143×399 = _____

(51) How many terms does the sequence 3, 8, 13, 18, … , 153 have?_____

(52) $15 \times \frac{15}{13}$ =_____(mixed number)

(53) The number of distinct diagonals which can be drawn inside an undecagon is_____

(54) $1 = \frac{11}{13} \times$ _____ (mixed number)

(55) $9\frac{1}{3} \times 12\frac{1}{3}$ =_____ (mixed number)

(56) $243_5 + 334_5$ = _____$_5$

(57) If a line passes through (1,6) and (2,15), then its y-intercept is_____

(58) The midpoint of (2,9) and (-7, 5) is (a,b), then a + b =_____

(59) $\frac{3}{7}$ of a gallon =_____cubic inches

***(60)** The volume of a cube with edge 45 is _____

(61) The sum of the coefficients of $(5x + 3y)^2$ is _____

(62) The area of a square with a diagonal of length $4\sqrt{3}$ is_____

(63) 65×45 = _____

(64) If set A ={p,a,r,k,s} and set B ={h,a,w,k,s}, then $n(A \cup B) + n(A \cap B)$ =_____

(65) 0.372372… =_____(fraction)

(66) $9^2 + 18^2$ =_____

(67) If the y-intercept of $4x + 3y = C$ is 8, then the x-intercept is _____

(68) $\frac{2+4+6+8+...+42}{2+4+6+8+...+14}$ =_____

(69) $43_8 \div 7_8$ = _____$_8$

***(70)** 55^3 =_____

(71) If P and Q are roots of $12x^2 + 13x + 25 = 0$, then PQ + P + Q = _____

(72) If $f(x) = 17x^2$, then $f\left(\sqrt{5}\right)$ =_____

(73) The number of positive integral divisors less than 18 that are relatively prime to 18 is____

(74) $x^2 - 8x + 4 = 0$ has how many real roots?_____

(75) 309^2 = _____

(76) The sum of the integral solutions of $|x - 2| \leq 2$ is_____

(77) The sum of the roots of $(4x^2 - 3x + 5)(8x^2 + 5x - 11) = 0$ is _____

(78) $\log_2 4^3$ =_____

(79) i^{18} =_____

***(80)** 559 square miles = _____acres

2016-2017 TMSCA Middle School Number Sense Key #5

(1) 85

(2) 18

(3) 15.4

(4) 516

(5) $\frac{1}{3}$

(6) 10

(7) 256

(8) 5

(9) 60

***(10) 2780 – 3072**

(11) 490

(12) 79

(13) 2560

(14) 27

(15) 676

(16) $1\frac{2}{5}$

(17) 5625

(18) 80

(19) 2016

***(20) 264621 – 292475**

(21) 98

(22) 11024

(23) 108

(24) 7

(25) 169

(26) 12102

(27) – 49

(28) 3.3

(29) 27

***(30) 5881 – 6499**

(31) 24.00

(32) 6

(33) 243

(34) $2\frac{9}{88}$

(35) – 216

(36) 64

(37) 14605

(38) 57

(39) 2420

***(40) 265 – 292**

(41) $1\frac{5}{7}$ **or** $\frac{12}{7}$

(42) 16.5, $16\frac{1}{2}$**,** $\frac{33}{2}$

(43) 224

(44) 12

(45) 41

(46) 343

(47) 6

(48) 135

(49) 396

***(50) 54205 – 59909**

(51) 31

(52) $17\frac{4}{13}$

(53) 44

(54) $1\frac{2}{11}$

(55) $115\frac{1}{9}$

(56) 1132

(57) – 3

(58) 4.5, $4\frac{1}{2}$ **or** $\frac{9}{2}$

(59) 99

***(60) 86569 – 95681**

(61) 64

(62) 24

(63) 2925

(64) 10

(65) $\frac{124}{333}$

(66) 405

(67) 6

(68) 8.25, $8\frac{1}{4}$ **or** $\frac{33}{4}$

(69) 5

***(70) 158057 – 174693**

(71) 1

(72) 85

(73) 6

(74) 2

(75) 95481

(76) 10

(77) .125 or $\frac{1}{8}$

(78) 6

(79) – 1

***(80) 339872 – 375648**